



Memory & Cognition: The first 40 years

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Abstract

This article presents a survey of the first 40 years of this journal, covering (1) the origin and subsequent history of the journal, (2) who the editors have been, (3) the influence of the journal and its editors on the field, and (4) the most frequently cited articles. A virtually immediate success, *Memory & Cognition* has gone on to become one of the leading journals in the field of cognitive psychology.

Keywords History

My goal in this article is to present a portrait of the first 40 years of this journal, from 1973 through 2012. *Memory & Cognition* has played an important role in the growth in—and the increased influence of—cognitive psychology and the Psychonomic Society, so a look back is warranted, and will also provide some perspective on how the field has developed. Why choose 40 years? We are not yet ready for a 50-year review, and, given that one aspect of what I want to report (notable citations) only makes sense after the passage of some time, 40 years meets that constraint. I will describe how the journal began, sketch who the editors have been, consider how the journal and its editors have influenced the field, and summarize the most influential articles in the first 40 years.

How the journal began

The Psychonomic Society was established on December 31, 1959, its goal being “especially to provide an adequate forum for the presentation and discussion of psychological research” (Dewsbury & Bolles, 1995, p. 216). The first annual meeting took place September 1–3, 1960, at the University of Chicago. Details of the Society’s origin are provided by Dewsbury and Bolles in the first of a series of four historical articles. The three subsequent historical articles describe the journal publishing program (Dewsbury, 1996), the annual meetings of the

Society (Dewsbury, 1997a), and the Society’s development through the years (Dewsbury, 1997b).

From the earliest meetings about establishing such an organization, the issue of whether the Society should publish its own journals was front and center, as Dewsbury (1996) describes in admirable detail. Indeed, Dewsbury and Bolles (1995) append the original bylaws of the Society (formally adopted December 30, 1959), and it is noteworthy that Article VII (of 10) specifically addresses journal publications: “With approval of the membership, the Governing Board may undertake the editing, or publishing, or both, of scientific journals” (pp. 229–230).

Although journal publication did not happen right away, by 1964, the first Society journal—*Psychonomic Science*—appeared in print, having been created, according to Dewsbury (1996), “on his own” (p. 324) by Clifford T. Morgan. In 1966, Morgan decided that *Psychonomic Science* should split articles dealing with animal and physiological topics from those dealing with human experimental areas into separate sections of the journal, setting the stage for the development of more domain-specific journals. The first of these—*Perception & Psychophysics*—appeared in 1966. By 1968, when *Behavior Research Methods and Instrumentation* debuted, Morgan already was suggesting that *Psychonomic Science* should be fractionated into multiple specialty journals. It took until 1971 for a committee to be created by the Governing Board to consider how the Society should proceed with respect to publications. That committee made five recommendations to the Board, the second of which was for the establishment of three new journals: *Animal Learning and Behavior*, *Physiological Psychology*, and *Memory & Cognition*. All three were promptly instituted, with submissions for their initial volumes occurring during 1972. From their creation, these

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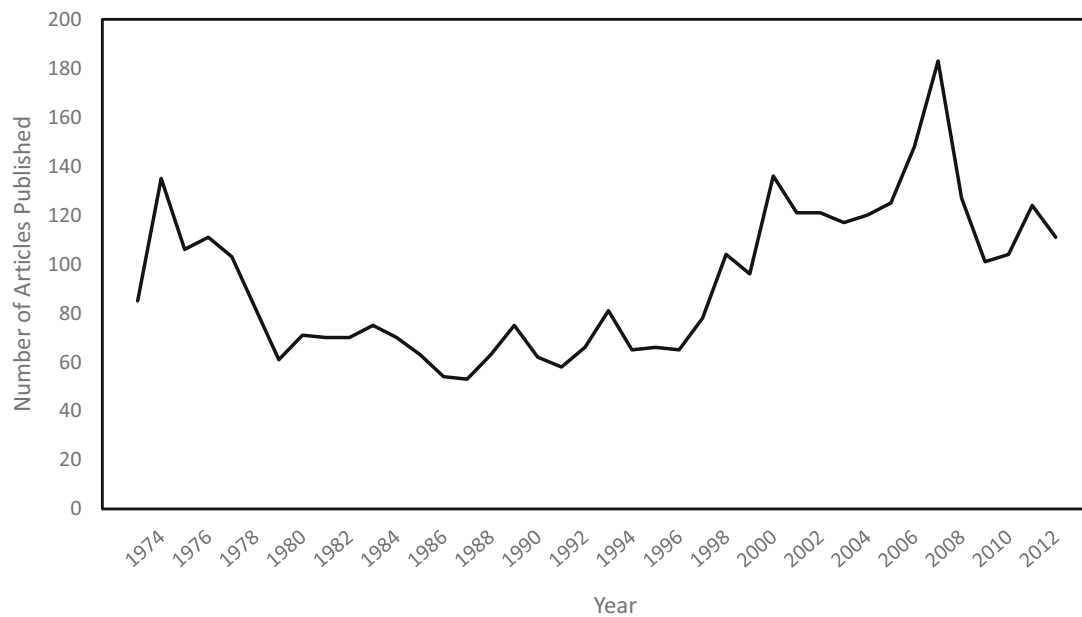


Fig. 1 Number of articles published in *Memory & Cognition* for each of the 40 years 1973–2012

three journals all were fully refereed, unlike *Psychonomic Science*, which had been lightly edited.

In 1973, these three journals did in fact debut in print. *Memory & Cognition* was initially published quarterly, with its first issue in January 1973. The inaugural editors were George E. Briggs and Rudolph W. Schulz, carrying on their work as editors of the *Psychonomic Science* Section on Human Experimental Psychology. In *Psychonomic Science*, Briggs had been responsible for perception, performance, and experimental social psychology and Schulz had been responsible for memory, learning, and thinking. The first article to appear in the inaugural issue of *Memory & Cognition*, entitled “On the selection of signals,” was by Posner, Klein, Summers, and Buggie (1973). Other noted experimental psychologists whose papers appeared in that first issue included Wendell Garner, Leo Postman, and Benton Underwood. The most cited article in the first volume was Dyer’s (1973) review of the Stroop literature.

Over the years, apart from periodic changes in the cover design, the most notable changes were in the number of issues published annually, with increases responding to the success of the journal. This number increased twice—quickly from the original four to six issues in 1975 (Volume 3), where it remained for 25 years until 2000 (Volume 28), when it increased to eight issues, the current complement. Although the first 5 years saw from 85 to 135 articles published in each volume, the number of articles settled into the range of 60 to 80 annually from then until 1998, when the number rose again—with a few exceptions—to the current range of 100–120 annually. Figure 1 shows the number of articles published in each of the first 40 years. Records of submissions were available only for the years 2008–2012 (and thereafter).

Submissions increased quite monotonically from 473 in 2008 to 575 in 2012, with rejection rates annually in those five years hovering very close to 80% (range 77%–83%). In their editorials two decades earlier, Healy (1986) mentioned a rejection rate of “between 70% and 80%,” and Intons-Peterson (1990) noted that “the acceptance rate is about 20%,” so this pattern seems to have been quite consistent through the years.¹

The editors

In the first 40 years of the journal, there were 11 editors, beginning with a joint editorship and followed by a series of editors-in-chief who, with one exception, each served a 4-year term. As will become apparent, the diversity in the areas of primary expertise of the editors has been good for the journal, fostering diversity in the topics of the submissions. Put simply, *Memory & Cognition* is aptly named.

The search for the next editor ordinarily begins around the time of the annual meeting of the Psychonomic Society in November, 14 months before the new editorial team will begin to receive manuscripts—and therefore 26 months before the names of the new editorial team appear on the cover of the journal. The search is conducted by a search committee whose chair is appointed by the

¹ What exactly is meant by “rejection rate” is not absolutely clear; the term is used in different ways. I assume that what is meant here is that, of all submissions, approximately 80% are rejected and only 20% are published. Of course, some of the submissions that are initially rejected may subsequently be extensively revised and may then cross the threshold for acceptance; including these in the calculation would result in a lower rejection rate.

Publications Committee of the Society; the chair then fills out the search committee—typically three more members of the Society—with the approval of the Publications Committee. The search committee then solicits nominations and ultimately recommends one of the nominees to the Publications Committee for its approval.

Once the new editor is approved and has agreed to take on the position, usually by June (i.e., after about 6–8 months required for the search process), the now editor-elect begins the process of recruiting associate editors and members of the editorial board (the consulting editors).

This process is completed before January, which is when the new team replaces the previous team and begins processing manuscripts. The outgoing team's names remain on the cover for that calendar year because the articles being published in that year will almost all have been acted on by the outgoing team.

Table 1 lists the 11 editors, their affiliations, and their editorial terms; Fig. 2 presents photographs of each of them. In the reference section, I have included the citation for each editor's opening editorial. In the remainder of this section, I provide brief biographical sketches of each of the editors.



Fig. 2 The editors of *Memory & Cognition*, 1973–2012 (left to right, top to bottom, in order of editorial term). Where possible, these are photos taken around the time of their editorial term

George E. Briggs (1973–1974)

Briggs was born in Columbus, Ohio on May 27, 1926. He completed his undergraduate degree at Ohio State University in 1949, mentored by Arthur W. Melton; he completed his PhD at the University of Wisconsin in 1953, under the supervision of W. J. Brogden. Following a postdoc at Northwestern University with Benton J. Underwood, he took up a research associate position at Ohio State University with Paul Fitts; that position became a faculty position in 1958. He moved to New Mexico State University as chair in 1973. He died in Las Cruces, New Mexico, on December 10, 1974. Briggs is best known for his research in the realms of engineering psychology and human factors, and for his work on choice reaction time.

As coeditors, Brigg and Schulz wrote in their inaugural editorial (Briggs & Schulz, 1973) that the new journal solicited integrative papers with theoretical advancement; they also counseled authors on the analysis and presentation of their data.

Rudolph W. Schulz (1973–1976)

Schulz was born on August 10, 1930, in Chicago, Illinois. He completed his undergraduate degree at Northwestern University in 1954 and then moved to Stanford University for his master's degree in 1955 before returning to Northwestern, where he completed his PhD in 1958, under the supervision of Benton J. Underwood. After a year at the Carnegie Institute of Technology, he became a faculty member at the University of Iowa in 1960, and spent his entire career there, including cycles serving as chair and as dean. He died May 31, 2015, in Iowa City, Iowa. Schulz is best known for his research in the realm of verbal learning and memory, especially in the domain of paired-associate learning.

Robert G. Crowder (1977–1981)

Crowder was born in Waterloo, Iowa, on September 16, 1939. He completed his undergraduate degree in 1960 and his PhD in 1965, both at the University of Michigan, where his supervisor was Arthur W. Melton. He moved immediately to a faculty position at Yale University, where he spent his entire career. His textbook, *Principles of Learning and Memory* (1976), is a classic in the field. He died July 27, 2000, in Hamden, Connecticut. Crowder is best known for his research on memory, particularly auditory memory, and for work on reading and on music cognition.

His editorial (Crowder, 1977) again emphasized the importance of integrated articles reporting programmatic research, but he also made room for single experiments, literature reviews, and other relevant work.

Robert A. Bjork (1982–1985)

Bjork was born in 1939, in Hector, Minnesota. He completed his undergraduate degree at the University of Minnesota in 1961; he completed his PhD at Stanford University in 1966, under the supervision of William K. Estes. After his first faculty position, at the University of Michigan, he moved to the University of California, Los Angeles. He also served as Editor of *Psychological Review* and as coeditor of *Psychological Science in the Public Interest*. Bjork is best known for his research on learning and memory, especially for his work on directed forgetting and on memory and metamemory considerations in optimizing instruction and self-regulated learning.

In his editorial (Bjork, 1982), after a year of handling manuscripts, Bjork wrote that he strongly endorsed Crowder's point about the relevance of single-experiment papers—that

Table 1. The editors of *Memory & Cognition* from 1973 to 2012, with their terms

Editor	Affiliation	Term
George E. Briggs*	Ohio State University/New Mexico State University	1973–1974
Rudolph W. Schulz	University of Iowa	1973–1976
Robert G. Crowder	Yale University	1977–1981
Robert A. Bjork	University of California, Los Angeles	1982–1985
Alice F. Healy	University of Colorado	1986–1989
Margaret Jean Intons-Peterson	Indiana University	1990–1993
Geoffrey R. Loftus	University of Washington	1994–1997
Morton Ann Gernsbacher	University of Wisconsin–Madison	1998–2001
Colin M. MacLeod*	University of Toronto/University of Waterloo	2002–2005
Brian H. Ross	University of Illinois	2006–2009
James S. Naime	Purdue University	2010–2014

Note. The terms listed above represent the years in which each editor's name appeared on the cover of the journal; these are offset by 1 year from the actual appointment as editor, which began a year before the listed term. *Briggs and MacLeod each changed affiliations during their editorial terms

number of experiments was often a poor measure of the value of a research contribution.

Alice F. Healy (1986–1989)

Healy (nee Fenvesy) was born in 1946, in Chicago, Illinois. She completed her undergraduate degree at Vassar College in 1968; she completed her PhD in 1973 at Rockefeller University, under the supervision of William K. Estes. After an initial faculty position at Yale University, she moved to the University of Colorado Boulder. Healy is best known for her research on memory and on training, and particularly for her work on short-term memory, long-term retention, reading, and psycholinguistic processes.

In her editorial (Healy, 1986), Healy commented on the high standards that the journal had developed, and renewed the points raised by her predecessors, including statistical advice. She also cautioned against comparisons across, rather than within, experiments.

Margaret Jean Intons-Peterson (1990–1993)

Intons-Peterson (nee Lowther) was born in Minneapolis, Minnesota, on October 3, 1930. She completed both her undergraduate degree (in 1951) and her PhD (in 1955) at the University of Minnesota, the latter after obtaining her master's degree from the University of Denver in 1953. Her PhD supervisor was Wallace A. Russell. From Minnesota, she moved to Indiana University, where she spent her entire academic career, including a cycle as chair. She was also editor of *the Journal of Experimental Psychology: Human Perception and Performance*. She died in Bloomington, Indiana, on August 24, 2019. Intons-Peterson is best known for her work on memory, especially on short-term memory and visual imagery; later in her career, she also studied gender and culture.

In her editorial (Intons-Peterson, 1990), she emphasized the importance of reviews that are “facilitative and educational.” Intons-Peterson highlighted the kinds of substantial manuscripts and thorough statistics that Briggs and Schulz had encouraged. Intriguingly, she noted the important role of papers reporting failures to replicate.

Geoffrey R. Loftus (1994–1997)

Loftus was born in Syracuse, New York, in 1945. He completed his undergraduate degree at Brown University in 1967; he completed his PhD at Stanford University in 1971, under the supervision of Richard C. Atkinson. Following a postdoc at New York University with George Sperling, he took up a faculty position at the University of Washington, where he spent his entire career. Loftus is best known for his research on visual perception and on memory, including research on

recognition memory and on factors affecting eyewitness testimony.

His editorial (Loftus, 1993) was the most comprehensive and directive to date. First, he echoed the value of single experiment papers. Second, he provided advice on preparation of papers; he also encouraged making archival data available. His third instruction was the most novel—that wherever possible, null hypothesis significance testing be replaced by presentation of data in figures, along with a strong suggestion about using confidence intervals.

Morton Ann Gernsbacher (1998–2001)

Gernsbacher was born in 1955, in Texas. She completed her undergraduate degree at the University of North Texas in 1976, her master's degree at the University of Texas at Dallas in 1980, supervised by James C. Bartlett, and her PhD at the University of Texas at Austin in 1983, supervised by Donald J. Foss. From Austin, she took up a faculty position at the University of Oregon, and from there moved to the University of Wisconsin–Madison. She also served as coeditor of *Psychological Science in the Public Interest*. Gernsbacher is best known for her research in the cognitive and neural mechanisms that underlie human communication.

Her editorial (Gernsbacher, 1998) encouraged authors to write more succinctly and to rule out alternative explanations with experiments, not “page after page of argumentative prose.”

Colin M. MacLeod (2002–2005)

MacLeod was born in Montréal, Québec, Canada, in 1949. He completed his undergraduate degree at McGill University in 1971; he completed his PhD at the University of Washington in 1975, under the supervision of Thomas O. Nelson. Following a postdoc at Washington with Earl Hunt, he took up a faculty position at the University of Toronto at Scarborough, where he served as chair and as editor of the *Canadian Journal of Experimental Psychology*. In 2003, he moved to the University of Waterloo, where he again served as chair. MacLeod is best known for his research on memory and attention, particularly his work on interference in the Stroop effect, on implicit memory, and on the production effect in memory.

As the first non-American editor, his editorial (MacLeod, 2002) emphasized recruiting more international contributions from authors and reviewers, and he set out to increase international representation on the editorial board. He noted that articles had become shorter and promised to continue to emphasize concise presentation.

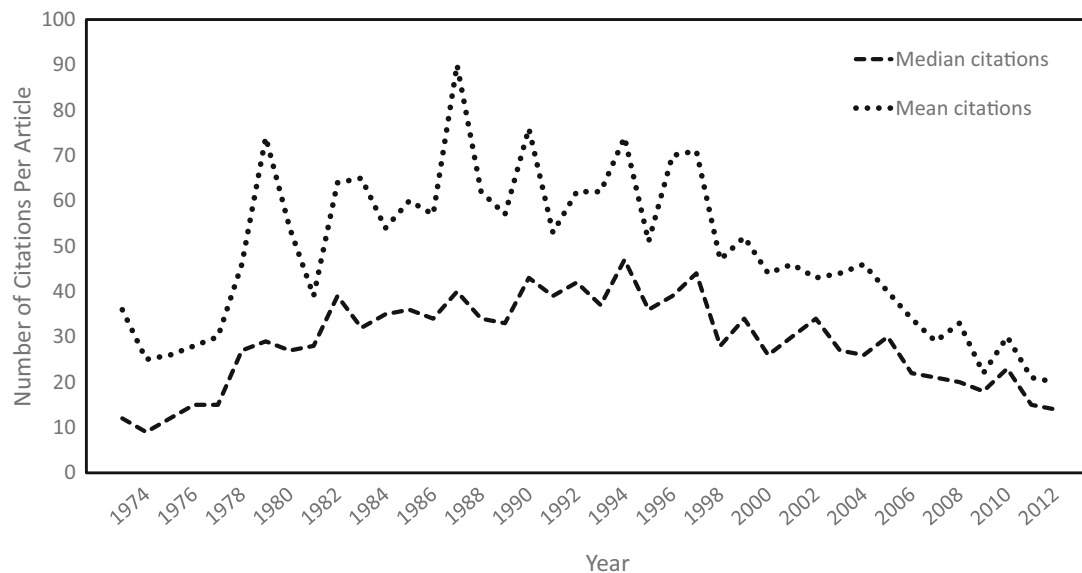


Fig. 3 Average (both median and mean) number of citations per article in a given year in *Memory & Cognition* for each of the 40 years 1973–2012

Brian H. Ross (2006–2009)

Ross was born in 1953 in New York City. He completed his undergraduate degree at Brown University in 1974, Master’s degrees at Rutgers University (1977) and Yale University (1978), and his PhD at Stanford University in 1982, supervised by Gordon H. Bower. He then took up a faculty position at the University of Illinois for most of his career, including administrative positions as interim department head and acting dean. Ross retired from Illinois in 2016 to move to Minerva Schools at KGI, where he became dean of arts and sciences before retiring in 2020. He was long-time editor of the book series *The Psychology of Learning and Motivation*. Ross is best known for his research on problem-solving and learning in complex domains, categorization, and the use of concepts.

His editorial (Ross 2006) emphasized publishing “interesting, cutting-edge research,” that did not have to be “perfect,” and he also encouraged the archiving of data and materials given the growing possibilities for doing so.

James S. Nairne (2010–2014)

Nairne was born in 1954, in Pasadena, California. He completed his undergraduate degree at the University of California, Berkeley, in 1977, and completed his PhD at Yale University, in 1981, under the supervision of Robert G. Crowder. After taking up an initial faculty position at the University of Texas at Arlington, he moved to Purdue University. Nairne is best known for his research on memory, particularly his work on memory for order and on adaptive memory.

His editorial (Nairne, 2010) emphasized the importance of good data and of replication, and again called for concise

articles: He placed a maximum of 8,000 words on all submissions (the current maximum is 8,500). To these, he added the importance of scholarship and of placing work in historical context. He also encouraged submission of research progress reports, which he characterized as “targeted assessments of mature phenomena.”

The influence of the journal and its editors

From the first editorial, by Briggs and Schulz (1973), the remit of the journal has been made very clear—to “contain reports of the major investigative efforts of researchers concerned with the broad range of topics in human experimental psychology” (p. 1). One might reasonably ask whether there have been any trends in the content or domain of articles published over the 40 years. Sorting all 3,749 articles published in the 40-year window seemed rather daunting. Consequently, in a very rough attempt to answer this question, I chose one issue per year (Issue Number 3 each year), and sorted the articles in that issue into a set of rather “ad hoc” categories (keeping the most highly cited article in the journal in mind). Based on this admittedly blunt instrument, the broad topics of the submissions remained fairly steady over the 40 years, but a few trends were apparent.

In the first 5–7 years, articles from two domains—social psychology and traditional learning—appeared in each issue, but they then disappeared, likely seeking more kindred speciality journals. Articles on attention were more prevalent in the earlier years, likely having declined as *Attention, Perception, & Psychophysics* attracted more of that research. Articles on categorization did not appear until the early 1980s, but by 2012 formed a significant subset of the content. Articles on short-

Table 2. The 40 most-cited articles in the first 40 years of *Memory & Cognition* (1973–2012)

Rank by total citations	Total citations	Rank by mean citations	Mean citations (per Year)	Author(s)	Title	Year	Vol/ Issue	Pages
1	837	7	28.86	Barsalou	Ad hoc categories.	1983	11/3	211–227
2	741	6	30.88	Gardiner	Functional aspects of recollective experience.	1988	16/4	309–313
3	734	2	40.78	Maljkovic & Nakayama	Priming of popout: I. Role of features.	1994	22/6	657–672
4	642	5	33.79	Rajaram	Remembering and knowing: Two means of access to the personal past.	1993	21/1	89–102
5	620	13	23.85	Rayner & Duffy	Lexical complexity and fixation times in reading: Effects of word frequency, verb complexity, and lexical ambiguity.	1986	14/3	191–201
6	599	12	23.96	Van Orden	A rows is a rose: Spelling, sound, and reading.	1987	15/3	181–198
7	549	4	34.31	Chalfonte & Johnson	Feature memory and binding in young and older adults.	1996	24/4	403–416
8	500	14	22.73	Nairne	A feature model of immediate memory.	1990	18/3	251–269
9	453	1	50.33	Kensinger & Corkin	Memory enhancement for emotional words: Are emotional words more vividly remembered than neutral words?	2003	31/8	1169–1180
10	449	23	16.04	Seidenberg, Waters, Sanders, & Langer	Pre- and postlexical loci of contextual effects on word recognition.	1984	12/4	315–328
11	448	8	28.00	Donaldson	The role of decision processes in remembering and knowing.	1996	24/4	523–533
12	441	19	17.64	Holyoak & Koh	Surface and structural similarity in analogical transfer.	1987	15/4	332–340
13	422	3	35.17	Curran	Brain potentials of recollection and familiarity.	2000	28/6	923–938
13	422	36	10.82	Dyer	The Stroop phenomenon and its use in the study of perceptual, cognitive, and response processes.	1973	1/2	106–120
15	420	28	13.12	Becker	Semantic context effects in visual word recognition: An analysis of semantic strategies.	1980	8/6	493–512
16	414	21	16.56	Roediger & Blaxton	Effects of varying modality, surface features, and retention interval on priming in word-fragment completion.	1987	15/5	379–388
17	408	9	27.20	Tanaka & Sengco	Features and their configuration in face recognition.	1997	25/5	583–592
18	390	33	11.82	Logan & Zbrodoff	When it helps to be misled: Facilitative effects of increasing the frequency of conflicting stimuli in a Stroop-like task.	1979	7/3	166–174
19	385	10	25.67	Norman & Schacter	False recognition in younger and older adults: Exploring the characteristics of illusory memories.	1997	25/6	838–848
20	383	27	14.18	Jolicoeur	The time to name disoriented natural objects.	1985	13/4	289–303
21	378	35	11.12	Smith, Glenberg, & Bjork	Environmental context and human memory.	1978	6/4	342–353
22	374	20	17.00	Van Petten & Kutas	Interactions between sentence context and word frequency in event-related brain potentials.	1990	18/4	380–393
22	374	29	12.90	Evans, Barston, & Pollard	On the conflict between logic and belief in syllogistic reasoning.	1983	11/3	295–306
22	374	38	10.11	Palmer	The effects of contextual scenes on the identification of objects.	1975	3/5	519–526
25	372	22	16.17	Penney	Modality effects and the structure of short-term verbal memory.	1989	17/4	398–422
25	372	30	12.83	Kutas & Hillyard	Event-related brain potentials to grammatical errors and semantic anomalies.	1983	11/5	539–550
27	359	32	11.97	Barsalou	Context-independent and context-dependent information in concepts.	1982	10/1	82–93
28	351	26	15.26	Lindsay & Johnson	The eyewitness suggestibility effect and memory for source.	1989	17/3	349–358
29	350	34	11.67	Henik & Tzelgov	Is three greater than five: The relation between physical and semantic size in comparison tasks.	1982	10/4	389–395
30	345	39	9.58	Neely	Semantic priming and retrieval from lexical memory: Evidence for facilitatory and inhibitory processes.	1976	4/5	648–654

Table 2. (continued)

Rank by total citations	Total citations	Rank by mean citations	Mean citations (per Year)	Author(s)	Title	Year	Vol/ Issue	Pages
31	342	17	21.38	Williams, Ellis, Tyers, Healy, Rose, & Macleod	The specificity of autobiographical memory and imageability of the future.	1996	24/1	116–125
32	341	14	22.73	Herlitz, Nilsson, & Backman	Gender differences in episodic memory.	1997	25/6	801–811
32	341	24	15.50	Rugg	Event-related brain potentials dissociate repetition effects of high- and low-frequency words.	1990	18/4	367–379
32	341	24	15.50	Gardiner & Java	Recollective experience in word and nonword recognition.	1990	18/1	23–30
35	336	31	12.44	Hirtle & Jonides	Evidence of hierarchies in cognitive maps.	1985	13/3	208–217
35	336	37	10.18	Taft	Recognition of affixed words and the word frequency effect.	1979	7/4	263–272
37	335	40	9.05	Paivio	Perceptual comparisons through the mind's eye.	1975	3/6	635–647
38	330	16	22.00	Yonelinas	Recognition memory ROCs for item and associative information: The contribution of recollection and familiarity.	1997	25/6	747–763
39	329	11	25.31	Stadler, Roediger, & McDermott	Norms for word lists that create false memories.	1999	27/3	494–500
39	329	18	19.35	Gathercole	Is nonword repetition a test of phonological memory or long-term knowledge? It all depends on the nonwords.	1995	23/1	83–94

Note. The citation data were downloaded from Web of Science on March 25, 2020

term/working memory consistently formed a significant subset of the content. Also consistently in evidence were articles on reasoning and articles on imagery/spatial processing, although these were not as prevalent as working memory or categorization. By far, however, the predominant content area over the 40 years was long-term memory, broadly conceived. It would appear, then, as noted earlier, that the journal is aptly named.

The editors have influenced practice in experimental psychology, most notably in the reporting of data. This began with Briggs and Schulz (1973) emphasizing reporting not just central tendency but also variation. They required that all measures of central tendency “be accompanied by a suitable measure of variability” (and that mean square errors be reported with analysis of variance statistics). Healy (1986) reinforced this expectation in her editorial. Other data presentation recommendations have also influenced data reporting. Most directive in this regard was Loftus (1993), who strongly urged replacing null hypothesis significance testing (NHST) with the reporting of data in figures coupled with the use of confidence intervals. Both of these recommendations continue to be influential, although NHST is still prevalent. Loftus, and more recently Ross (2006), urged authors to archive their norms, stimuli, and data, consistent with progress throughout the discipline; this certainly is becoming standard operating procedure, in keeping with open science.

A “tension” has existed in editorials over the years with respect to the place of single-experiment versus multiple-

experiment articles in the journal. Briggs and Schulz (1973) set the stage, stating that “it is expected that most research manuscripts will represent major data-collection efforts by the authors either through the report of a series of interrelated studies or through a single but comprehensive experimental design” (p. 1). Crowder (1977) tilted the balance heavily toward multiple-experiment articles, but left the door open for the “occasional” single-experiment article likely to “be of considerable impact.” Bjork (1982) saw this trend as having gone too far, and argued for the value of single experiments (given sufficient power), a position that Healy (1986) echoed. Intons-Peterson (1990) reemphasized the importance of multiple-experiment articles; Loftus (1993) reemphasized the value of single-experiment articles. Throughout the 40 years, multiple-experiment articles have certainly dominated and it is now relatively rare to see a single-experiment article, in part perhaps because of other venues more suited to shorter articles.

Various editors have encouraged submissions other than theoretically oriented empirical articles; indeed, this has again been true since the launch of the journal. Briggs and Schulz (1973) solicited articles that represented theory development and those that constituted scholarly reviews, sentiments reflected in the editorials of Crowder (1977), Bjork (1982), and Intons-Peterson (1990). With the emergence in the stable of psychonomic journals of *Psychonomic Bulletin & Review*, which specifically solicits review articles, these have become relatively uncommon in *Memory & Cognition*, although

Table 3. The most-cited article by year for the first 40 years of *Memory & Cognition* (1973–2012)

Year	Total Citations	Author(s)	Title	Vol/ Issue	Pages
1973	422	Dyer	The Stroop phenomenon and its use in the study of perceptual, cognitive, and response processes.	1/2	106–120
1974	301	Meyer, Schvaneveldt, & Ruddy	Functions of graphemic and phonemic codes in visual word-recognition.	2/2	309–321
1975	374	Palmer	The effects of contextual scenes on the identification of objects.	3/5	519–526
1976	345	Neely	Semantic priming and retrieval from lexical memory: Evidence for facilitatory and inhibitory processes.	4/5	648–654
1977	206	Tweedy, Lapinski, & Schvaneveldt	Semantic-context effects on word recognition: Influence of varying the proportion of items presented in an appropriate context.	5/1	84–89
1978	378	Smith, Glenberg, & Bjork	Environmental context and human memory.	6/4	342–353
1979	390	Logan & Zbrodoff	When it helps to be misled: Facilitative effects of increasing the frequency of conflicting stimuli in a Stroop-like task.	7/3	166–174
1980	420	Becker	Semantic context effects in visual word recognition: An analysis of semantic strategies.	8/6	493–512
1981	316	Onifer & Swinney	Accessing lexical ambiguities during sentence comprehension: Effects of frequency of meaning and contextual bias.	9/3	225–236
1982	359	Barsalou	Context-independent and context-dependent information in concepts.	10/1	82–93
1983	837	Barsalou	Ad hoc categories.	11/3	211–227
1984	449	Seidenberg, Waters, Sanders, & Langer	Pre- and postlexical loci of contextual effects on word recognition.	12/4	315–328
1985	383	Jolicoeur	The time to name disoriented natural objects.	13/4	289–303
1986	620	Rayner & Duffy	Lexical complexity and fixation times in reading: Effects of word frequency, verb complexity, and lexical ambiguity.	14/3	191–201
1987	599	Van Orden	A rows is a rose: Spelling, sound, and reading.	15/3	181–198
1988	741	Gardiner	Functional aspects of recollective experience.	16/4	309–313
1989	372	Penney	Modality effects and the structure of short-term verbal memory.	17/4	398–422
1990	500	Nairne	A feature model of immediate memory.	18/3	251–269
1991	220	Van Petten & Kutas	Influence of semantic and syntactic context on open-class and closed-class words.	19/1	95–112
1992	295	Carrier & Pashler	The influence of retrieval on retention.	20/6	633–642
1993	642	Rajaram	Remembering and knowing: Two means of access to the personal past.	21/1	89–102
1994	734	Maljkovic & Nakayama	Priming of popout: I. Role of features.	22/6	657–672
1995	329	Gathercole	Is nonword repetition a test of phonological memory or long-term knowledge? It all depends on the nonwords.	23/1	83–94
1996	549	Chalfonte & Johnson	Feature memory and binding in young and older adults.	24/4	403–416
1997	408	Tanaka & Sengco	Features and their configuration in face recognition.	25/5	583–592
1998	235	Rubin, Rahhal, & Poon	Things learned in early adulthood are remembered best.	26/1	3–19
1999	329	Stadler, Roediger, & McDermott	Norms for word lists that create false memories.	27/3	494–500
2000	422	Curran	Brain potentials of recollection and familiarity.	28/6	923–938
2001	252	Cain, Oakhill, Barnes, & Brant	Comprehension skill, inference-making ability, and their relation to knowledge.	29/6	850–859
2002	192	Coulson & Van Petten	Conceptual integration and metaphor: An event-related potential study.	30/6	958–968
2003	453	Kensinger & Corkin	Memory enhancement for emotional words: Are emotional words more vividly remembered than neutral words?	31/8	1169–1180
2004	287	Berntsen & Rubin	Cultural life scripts structure recall from autobiographical memory.	32/3	427–442
2005	255	Henderson, Williams, & Falk	Eye movements are functional during face learning.	33/1	98–106
2006	243	Megreya & Burton	Unfamiliar faces are not faces: Evidence from a matching task.	34/4	865–876
2007	210	Christensen & Schunn	The relationship of analogical distance to analogical function and preinventive structure: The case of engineering design.	35/1	29–38
2008	197	Smallwood, McSpadden, & Schooler	When attention matters: The curious incident of the wandering mind.	36/6	1144–1150

Table 3. (continued)

Year	Total Citations	Author(s)	Title	Vol/ Issue	Pages
2009	107	Fedorenko, Patel, Casasanto, Winawer, & Gibson	Structural integration in language and music: Evidence for a shared system.	37/1	1–9
2010	121	Berntsen & Rubin	Remembering and forecasting: The relation between autobiographical memory and episodic future thinking.	38/3	265–278
2011	324	Toplak, West, & Stanovich	The Cognitive Reflection Test as a predictor of performance on heuristics-and-biases tasks.	39/7	1275–1289
2012	123	Storm & Levy	A progress report on the inhibitory account of retrieval-induced forgetting.	40/6	827–843

Note. The citation data were downloaded from Web of Science on March 26, 2020

Nairne's (2010) call for research progress reports has led to a few such articles.

With the emphasis in recent years on the importance of replication in psychological research, it is interesting to note that this has long been emphasized in *Memory & Cognition*. As noted earlier, Intons-Peterson (1990) encouraged submission of failures to replicate, although very few have in fact been published in the journal. Most recently, Nairne (2010) again highlighted the critical importance of replication. Within-article replication no doubt contributes to the predominance of multiple-experiment articles.

Then, there is the issue of the article's presentation. Multiple editors have encouraged clarity of writing, but Gernsbacher (1998) was the first to comment on the growing length of articles and to request more succinct reporting, which MacLeod (2002) confirmed had happened during Gernsbacher's term and would continue to be a goal. Nairne (2010) instituted an 8,000-word limit for articles in a further effort to rein in length (note, again, that that limit has since been reset to 8,500 words).

Finally, in his editorial, MacLeod (2002) sought to encourage more international participation in the journal at all levels—editorial board, authors, and reviewers. This certainly has happened: Considering only articles having at least one author from outside the U.S., MacLeod counted three countries and 13% of the articles in 1973, seven countries and 38% of the articles in 1987, and 15 countries and 41% of the articles in 2001. Extending to 2012, the 40th year, those numbers were 21 countries and 57% of the articles, demonstrating continuing growth in internationalization. At this writing, three of 11 associate editors and 24 of 51 consulting editors are based outside the U.S.

The most influential articles

As noted earlier, *Memory & Cognition* has been successful from the outset in attracting submissions and in publishing high-quality articles in its domain. As evidence of its success, in 2018 (when last calculated), the journal had an impact factor of 1.95 and a 5-year impact factor of 2.520. Using the

Scimago Journal Rank (SJR) citation index, it is in Q1, reflecting the top 25% of journals in its subdiscipline. In short, the journal is highly respected.

Citation data were downloaded from the Web of Science database. Figure 3 shows the average number of citations per article published in the year indicated on the abscissa for each of the first 40 years. Both the medians and means are characterized by negative primacy and negative recency, with a long, steady asymptote. The 4–5-year negative primacy no doubt reflects the emergence of the journal on the scene, as it settled in and took its place among the top journals in cognitive psychology. The 8–10-year negative recency is no doubt simply a reflection of recent articles having not yet attracted the time-dependent citations that they will accrue in the next few years. Possibly the best index of average citations for any given article, then, is obtained from the average of the asymptotic years (dropping 1973–1977 and 2005–2012). Taking the means of the annual means and medians, respectively, results in estimates of 58 and 34 citations per article over those 27 years. Of course, like any journal, many articles receive few citations, and relatively few articles are highly cited. It is those highly cited articles that are considered next.

Given the fact that this survey applies to the first 40 years of the journal, and with the pop music concept of the “Top 40” in mind, Table 2 presents the 40 most-cited articles over the target period. It is noteworthy that the top three most-cited articles reflect the range of the journal—from high-level cognition (Barsalou, 1983) through memory (Gardiner, 1988) to low-level cognition (Maljkovic & Nakayama, 1994). Of the top 40 articles, the two domains most frequently included are memory and word recognition/reading, again reflecting the range of coverage of the journal. As is generally true in citations, three review articles and one set of norms also enjoy high citation rates. The names of four researchers each appear more than once in the top 40: Barsalou, Gardiner, Kutas, and Roediger.

In addition to ranking by total number of citations, and in an effort to “normalize for an article's age,” Table 2 also presents total number of citations divided by number of years since publication, resulting in mean number of citations per

year. This creates a somewhat different ranking of the most-cited articles, but the two measures of rank are moderately positively correlated, $r_s = .544$.

A second way to consider most-cited articles is to identify the most-cited article in each of the 40 years. This may be particularly informative in the more recent years, where articles can be expected to continue to attract citations. Table 3 therefore presents the top article in each of the 40 years. The two domains most frequently included remain memory and word recognition/reading. To the four researchers appearing more than once in Table 2 can be added three more: Berntsen, Rubin, and Schvaneveldt. Since 2004, no article in Table 3 has appeared in Table 2, indicative of the more recent articles not yet having had time to attract all of the citations that they will eventually attract. The article by Toplak, West, and Stanovich (2011) that reviews the Cognitive Reflection Test appears likely to become one of the highest-cited articles in the journal.

Conclusion

My goal in this article has been to survey the journal as it approaches its 50th year, examining its origin and progress, its editors, its influence, and its best known, most influential articles over its first 40 years. Like its sibling Psychonomic Society journals, *Memory & Cognition* is a credit to the vision of the creators and subsequent leaders of the society. The journal quickly became a leading venue for the dissemination of ground breaking research in cognitive psychology, and remains so today. The upcoming decades hold great promise for exciting new research in the broad domain of cognition—research to be published in the pages of *Memory & Cognition*.

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